

BOSTON
PUBLIC
LIBRARY



GOVDOC

BRA
1821

✓

BOSTON PUBLIC LIBRARY

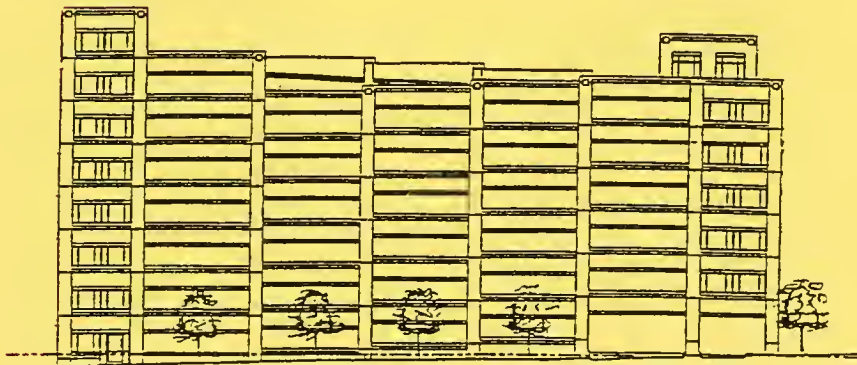
PROJECT NOTIFICATION FORM

New England Medical Center Hospital, Inc.



PARCEL C GARAGE PROJECT

July 1993



Submitted to:
Boston Redevelopment Authority
Boston, MA 02201

Submitted by:
NEMC Real Estate, Inc.
100 Boylston Street, suite 1025
Boston MA 02116

NEMC Real Estate, Inc.

July 27, 1993

Mr. Paul Barrett, Director
Boston Redevelopment Authority
One City Hall Square, 9th Floor
Boston, MA 02201

Dear Mr. Barrett:

The New England Medical Center (NEMC) is pleased to submit this Project Notification Form for a parking garage on Parcel C in the South Cove Urban Renewal Area. Simultaneously, NEMC is seeking an amendment to its 1990 Institutional Master Plan to incorporate the proposed project into its Master Plan and to alter the geographic boundaries of its current Master Plan to include Parcel C.

This project involves construction of a 455 space garage to be used primarily by patients and visitors of the Hospital. The garage facility will have a total floor area of approximately 147,000 gross square feet and an approximate height of 80 feet. The entrance and exit will both be located on Nassau Street.

NEMC will provide the following Community Benefits package to the Chinatown-South Cove Neighborhood Council (CNC) and the City in connection with the Parcel C Garage:

- \$1.82 million to a community agency or trust, as designated by the CNC and the BRA, for the purpose of purchasing a building in or near Chinatown to house community agencies or other uses.
- Allocation of 55 parking spaces within the garage for use by residents of the Parcel A and Parcel B housing units, equivalent to \$946,000.
- Payment of a one-time grant of \$150,000 to a community agency or trust, as designated by the CNC and the

Robert P. Bland
President

100 Boylston Street
Suite 1025
Boston, Massachusetts 02116

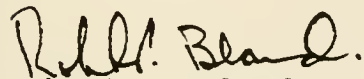
Telephone (617) 956-4560
Fax (617) 956-4678

Mr. Paul Barrett
July 27, 1993
Page 2

BRA, to be used to set-off operating or capital costs associated with the communities use of Posner Hall or other community use designated by the CNC and the BRA.

This Project Notification Form is being filed concurrently with an Environmental Notification Form to the Secretary of Environmental Affairs. It is hoped, that if further review is required, both will be scoped simultaneously and that a joint Project Impact Report/Environmental Impact Report can be prepared.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. P. Bland".

Robert P. Bland

RPB:jcb

cc: Beverly Johnson, BRA
Gerard Kavanaugh, BRA
Dennis Callahan, BRA
Andy McClurg, BTB
Larry Smith, NEMC

Appendix A to Exhibit 9 is available upon request.

TABLE OF CONTENTS

I.	SUMMARY	2.
II.	PROJECT DESCRIPTION	8.
III.	ASSESSMENT OF DEVELOPMENT REVIEW COMPONENTS	9.
IV.	COORDINATION WITH OTHER GEVERNMENT AGENCIES	16.
V.	PROJECT CERTIFICATION	17.
VI.	EXHIBITS	18.

PROJECT NOTIFICATION FORM

NEW ENGLAND MEDICAL CENTER

PARCEL C PARKING GARAGE

I. SUMMARY

A. Project Identification

1. Project Name

The New England Medical Center Hospital (NEMCH)
Parcel C Parking Garage, South Cove Urban Renewal Area

2. Address

New England Medical Center Hospital
750 Washington Street
Boston, MA 02116

3. Project Location

Parcel C in the South Cove Urban Renewal area, bounded by
Nassau Street, Ash Street, Oak Street, and May Place in the
City of Boston.

4. Project Owner

New England Medical Center Hospitals', Inc.

5. Owner's Representative

Robert P. Bland
NEMC Real Estate, Inc.
100 Boylston Street, suite 1025
Boston, MA 02111
(617) 956-4560

6. Architects

Shepley Bulfinch Richardson & Abbott/
Desman Associates
40 Broad Street
Boston, MA 02109
Attention: Garry Baker
(617) 423-1700

7. Planning/Transportation Consultants

Howard/Stein-Hudson Associates, Inc.
38 Chauncy Street
Boston, MA 02111
(617) 482-7080
Attention: Jane Howard

8. Legal Counsel

Ropes & Gray
One International Place
Boston, MA 02109
(617) 951-7476
Attention: Dan Roble

NEMC General Counsel
100 Boylston Street
Boston, MA 02111
(617) 956-5397
Attention: Larry Smith

9. Estimated Project Commencement and Completion Dates

- 2/94 Commencement
- 2/95 Completion

10. Approximate Cost

\$5 million construction cost

11. Status of Project

Preliminary Design. See Exhibits 2, 3, 4.

12. Applicability of Article 31, Boston Zoning Code

This project is located in the Downtown/Northern Avenue Corridor area and it exceeds 50,000 square feet of floor area in a new structure, therefore this project is subject to the Article 31 review process. The Parcel C site is part of the Chinatown District Zoning and is classified as Residential. In this district, a building that complies with Article 31 Development Review is allowed a maximum height of 100 feet and a maximum FAR of 6.0. This PNF and an ENF are being filed simultaneously for this project.

13. Status of Institutional Master Plan

The New England Medical Center Master Plan (1900-2000), prepared under the supervision of a community planning process, was approved by the Board of the Boston Redevelopment Authority on March 29, 1990. The Master Plan sets out a ten-year plan and a development framework for accomplishing the Medical Center's goals of maintaining and enhancing its role as an innovator and leader in the provision of high quality patient care, education, training, and research. In addition, the master plan sets out extensive community benefits directed to the Chinatown community, including housing linkage, job training linkage and an array of other programs related to increasing economic opportunities.

On July 9, 1993, NEMCH submitted a petition to amend its March 1990 Master Plan. This amendment is necessary to:

- Incorporate the proposed project into its Master Plan.
- Alter the geographic boundaries of its current Master Plan to include Parcel C. The new boundary lines would be expanded to include the block boarded by Ash Street, Nassau Street, Oak Street, and May Place in Boston.

14. Community Benefits Package

The following Community Benefits package would be provided by the Medical Center to the Chinatown-South Cove Neighborhood Council (CNC) and the City in connection with the Parcel C Garage.

- Construction of a 10,000 square foot community center built with a completed interior fit-out; or alternatively, a payment of \$1.82 million (the cost of constructing such a building) to a community agency or trust, as designated by the CNC and the BRA, for the purpose of purchasing a building in or near Chinatown to house community agencies or other uses.
- Allocation of 55 parking spaces within the garage for use by residents of the Parcel A and Parcel B housing units, equivalent to \$946,000.
- Payment of a one-time grant of \$150,000 to a community agency or trust, as designated by the CNC and the BRA, to be used to off-set operating or capital costs associated with the community's use of Posner Hall or other community use designated by the CNC and the BRA.

B. Narrative Project Description

Parcel C lies within Chinatown adjacent to the New England Medical Center campus, and is bounded by Nassau Street, Ash Street, Oak Street, and May Place. The site is owned by the BRA and leased by the Medical Center for surface parking of 80 cars. Three buildings are located on the site and also are leased by the Medical Center. These buildings will be demolished under the proposed development plan.

The Medical Center is proposing a 455 car garage with an open green space along Oak Street. The garage facility will have a floor area of approximately 147,000 gross square feet and an approximate height of 80 feet. The FAR for the proposed development will be approximately 6.0.

C. Public Agencies

The following is a list of Federal, State, and local agencies from which permits or other actions have been or will be sought. (Please note that applications for each permit listed below will be filed unless further analysis shows that such permits are not required.)

STATE AGENCY

• Massachusetts Executive
Office of Environmental
Affairs

• Massachusetts Water
Resources Authority

• Massachusetts Dept. of
Environmental Protection
- Division of Air Quality
Control

- Division of Water
Supply

- Division of Water
Pollution Control

PERMIT / ACTION

• MEPA Compliance
• Environmental Notification Form

• Permit to approve a trap or
separator at the storm water sewer
connector
• Sewer connection approval

• Pre-demolition Notice (20 days)
• Pre-Construction Notice
• Asbestos Removal Notice

• Water Supply Permit

• Sewer Connection Approval

The Environmental Notification Form will request determination
by the Secretary that no Environmental Impact Report be required.

LOCAL AGENCY

• Boston Redevelopment
Authority

• Boston Zoning Board
of Appeals

• Boston Civic Design
Commission

• Boston Transportation
Department/BRA

• Boston Water and Sewer
Commission/Board of
Health

PERMIT / ACTION

• Amendment to Master Plan in
accordance with the provisions of article
43 of the Boston Zoning Code. The
project is subject to the requirements of
Article 43 and the design review
requirements of Article 31.

• Conditional Use Permit for a Parking
Garage in a Restricted Parking District

• Design review in accordance with
Article 28 of the Boston Zoning Code.

• Transportation Access Plan Approval

• Water and Sewer tie-in approval

- Boston Inspectional Services Department
- Demolition Permit
- Building Permit
- Boston Air Pollution Control Commission
- Parking Freeze Permit
- Compliance with Construction Noise Regulations
- Boston Public Safety Commission, Committee on Licenses
- Gasoline Storage License
- Garage License

D. List of Zoning Relief

The project is located within the Chinatown Zoning District, Residential sub-district in the South Cove Urban Renewal Area, City of Boston. This site is outside NEMCH's Institutional sub-district, established pursuant to Article 43 of Chinatown District of the City of Boston Zoning Code. Additionally, the project site is located outside the Medical Center's Master Plan area as established by its Institutional Master Plan of March 29, 1990, as amended January 22, 1992 and September 16, 1992 for NEMCH. Therefore, NEMCH is seeking an amendment to its Master Plan specifically to:

- Incorporate the proposed project into its Master Plan
- Alter the geographic boundaries of the current Master Plan to include Parcel C.

Additionally, the site is located in a restricted parking district, therefore a conditional use permit will be sought from the Zoning Board of Appeals.

II. PROJECT DESCRIPTION

A. Location Map, Site Plan, Building Sections, and other Exhibits

- Exhibit 1. Location Map/ Parcel C Garage
- Exhibit 2. Street Level Plan
- Exhibit 3. Typical Floor Plan
- Exhibit 4. Building Section
- Exhibit 5. Heights of Surrounding Buildings
- Exhibit 6. Open Space Resources
- Exhibit 7. Photographs of Parcel C Site
- Exhibit 8. Historic Resource Map
- Exhibit 9. Transportation Impact Analysis

B. Existing Uses and Site Description

- Existing Uses
 - parking lot for 80 cars
 - three small buildings, used for administrative space. Buildings total roughly 20,000 - 30,000 square feet.
- Site Description

This site is bounded by Nassau Street, Oak Street, Ash Street and May Place. The property is owned by the Boston Redevelopment Authority. Three small buildings are located on the site which are currently being leased to NEMCH for administrative space. These buildings are two to four stories in height. Additionally, there is a parking lot for 80 cars which NEMCH leases from the BRA. The site is 25,008 square feet.

C. Proposed Space and Building Height

Gross Square Feet:	Approximately 147,000 square feet
Height:	80 feet

As a part of the proposed project, the Medical Center expects to re-configure and relocate the existing tot lot along Oak Street. The new tot lot and open space will be south of the proposed project and will not experience any shadow effects from the project. The potential open space in the courtyard of the proposed housing on Parcel B, is also south of the proposed Parcel C garage and will not be adversely affected.

New shadows created by the proposed project will not reach any of the other open space resources in the area, all of which are at a sufficient distance away given the height of the proposed building.

New shadows will occur on the Ash Street sidewalks during the morning throughout the year as a result of the proposed project. Some new shadows will occur on the Nassau Street sidewalks, although this street is in shadow most of the time throughout the year due to the existing buildings on Parcel C and on surrounding properties. This shadow effect on the surrounding sidewalks would occur with the construction of any building greater than four stories tall on this site.

3. Daylight

Since there are currently only a few low rise buildings along Nassau Street, the new construction will reduce the observation of perceived daylight along Oak Street, Nassau Street, and Ash Street. Daylight reduction will be minimized, however, by the proposed widening of Ash Street and by creating an open space along Oak Street, thus setting the building back from this street edge.

4. Solar Glare

Materials used in construction of the project will be selected to minimize solar glare.

5. Air Quality

No adverse effect on air quality is expected as a result of the proposed Parcel C Garage since the projected traffic volumes reflect only minor increases over future no-build conditions.

reflect only minor increases over future no-build conditions. The parking garage will serve primarily visitors and patients whose visits are spread throughout the day, thereby reducing the peak hour traffic volumes and any localized effects on air quality. The net addition of spaces will be 315.

The project does not require a ventilation system since it will be an open air garage.

6. Water Quality

The project site is currently occupied by three small structures and paved parking area for approximately 80 cars. The proposed project is not expected to result in any increases in storm water runoff into the City's storm water system. Because the structure is a garage, an MWRA permit to connect to a storm water system will be required. Please see section 8, Ground Water.

7. Flood Hazard Districts/Wetlands

The project is not located in a flood hazard zone and will not affect any wetland area.

8. Ground Water

Based on monitoring wells installed at the adjacent 1-C Project Phase 1 site, ground water levels are expected to be at depths of approximately 12 to 13 feet below the ground surface, with some seasonal fluctuations. Laboratory analyses of ground water samples from these wells revealed no contamination.

The foundation system will be designed to minimize adverse effects on the ground water levels in the vicinity of the project. The proposed project is not expected to have any adverse effects on the quality of ground water.

Construction activities are not expected to effect either the ground water levels or the quality of the ground water on the site. If construction de-watering systems are used, off-site impacts are expected to be minimal because of the

impermeable nature of the clay soils and because of the short duration of temporary de-watering.

9. Geotechnical

The soils on the site are expected to be similar in nature to those found on the adjacent 1-C Project Phase 1, including a thin layer of miscellaneous fill, underlain by silty clay and a thin layer of glacial till. Argillite bedrock is found approximately 80 to 120 feet below the ground surface.

The foundation design and construction methods will be selected to minimize adverse effects on adjacent structures and utilities.

10. Solid and Hazardous Waste

A Chapter 21E site assessment will be conducted for this site. Based on the site assessment for the adjacent 1-C Project Phase 1, the project site is not expected to contain any contaminants beyond those considered typical of urban industrialized zones. If such contaminants are found, they will be removed from the site during the construction phase and disposed of in accordance with DEP requirements, as will all other excavate.

Since it is a garage, solid waste generated by this project is expected to be relatively minor, deriving from the attendants office and incidental waste receptacles in the garage. This waste will be removed by a licensed contractor similar to other areas in the Medical Center.

11. Noise

The traffic movements generated by the proposed action are not expected to have an adverse effect on noise levels in the project vicinity.

As an open air garage, there will be little mechanical equipment, and operational noise impacts are expected to be minimal.

12. Construction Impact

A detailed construction plan will be included in the project's Traffic Maintenance Plan in compliance with the City's Construction Management Program required by the Boston Transportation Department prior to the issuance of a building permit. The construction plan will address construction worker commuting and parking, staging areas, routing plans for trucking and deliveries, street and sidewalk closure and staging, and control of dust and noise.

Construction methodologies that ensure public safety will be established, including barricades, walkways, signage, and other techniques. Construction management and scheduling will aim to minimize impacts on the surrounding environment.

Demolition of the existing structures and excavation for the foundations will result in the generation of rubble and excavate. Asbestos containing material will be identified and removed prior to demolition. All building demolition materials will be properly disposed of at approved demolition landfills. If any contaminants are found, they will be removed from the site during the construction phase and disposed of in accordance with DEP requirements, as will any asbestos and all other excavate.

13. Rodent Control

The proposed project will follow the requirements for the control of rodent infestation established by the Massachusetts State Sanitary Code, Chapter II, 105 CMR 410.550; State Building Code, Section 108.6; and City Policy Number 87-4, which establishes that extermination of rodents shall be required for issuance of permits for demolition, excavation, foundation and basement rehabilitation.

The proposed project will be incorporated into the Medical Center's current Pest Control Program, which is carried out by a fully certified pest control company licensed by the Commonwealth of Massachusetts. The Medical Center also actively participates in rodent control activities organized by the Chinatown Beautification Committee.

C. Urban Design Component

As a part of this project, the Medical Center will provide a new open space area along Oak Street, which will be accessible to the Chinatown community. With this in place, the garage building will be set back from Oak Street and relate better to the width of this street. Other architecture and urban design goals for the project include the use of building materials that relate to the surrounding context and the improvement of the pedestrian environment along Oak Street, Ash Street, and Nassau Street.

At 80 feet, the height of the proposed building will be similar in height to the existing buildings on the block between Nassau Street and Bennet Street.

The project will be reviewed by the Boston Civic Design Commission, in accordance with Article 43 of the Zoning Code.

D. Historic Resources Component

Parcel C lies within the National Register (NR) eligible Chinatown District, but is not close to the core of this district and is not expected to affect the contributing buildings that define the district character.

Because of its distance and the presence of intervening buildings, the proposed project is not expected to affect any of the other nominated or eligible NR and/or Boston Landmarks Commission (BLC) districts in this area, including the NR Theater Area Multiple Resource Nominated District, nor any individually listed NR and/or BLC properties in the vicinity (see Exhibit 8, Historic Resource Map).

Similar to the 1-C Project Phase 1, the Parcel C garage is expected to have little or no impact on significant archaeological resources.

E. Infrastructure Systems Component

1. Water

Total water consumption for the proposed project is estimated to be 50 gallons per day, generated by the bathroom provided for the attendant's use.

2. Electricity

The project will use minimal electricity, requiring only that needed to heat the small office space, and to operate the elevators and the lighting for the garage.

3. Sewage Generation

The project is expected to generate approximately 50 gallons per day of sewage, based on one bathroom for the attendant's use.

The existing site contains three small buildings set within a paved parking area, so any increases in storm water runoff resulting from the proposed project are expected to be minimal.

4. Energy Requirements

The overall project will have only minimal energy demands as necessary for lighting, the operation of elevators, and heating associated with an attendant's office of approximately 300 square feet.

IV. COORDINATION WITH OTHER GOVERNMENT AGENCIES

A. Boston Civic Design Commission

The proposed Parcel C garage will be subject to Article 28 of the Boston Zoning Code, which establishes a review process by the Boston Civic Design Commission (BCDC) for structures exceeding 100,000 square feet in floor area. The BCDC will review the project in the schematic design phase and make recommendations regarding the project design.

B. Landmarks Commission Review

Upon submittal of the PNF, the Landmarks Commission will assess the Landmark value, if any, of the three buildings currently located on Parcel C which are sited to be demolished. It is not expected that these buildings will have any Landmark value.

C. Massachusetts Environmental Protection Act (MEPA)

The Medical Center will file an Environmental Notification Form (ENF) to the MEPA unit of the Executive Office of Environmental Affairs (EOEA) within the same time period that this PNF is filed with the City. The project does not exceed any of the thresholds for categorical inclusions requiring the preparation of an Environmental Impact Report (EIR).

D. Architectural Access Board Requirements

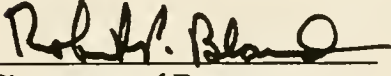
The project is subject to the Architectural Access Board. The project is also subject to the Barrier Free Access Requirements of Article 30 of the Boston Zoning Code.

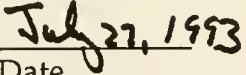
E. Mayor's Office for Neighborhood Services

The Medical Center will work closely with the Mayor's Office of Neighborhood Services and with the Boston Redevelopment Authority in providing information about the proposed project to concerned neighborhood groups.

V. PROJECT CERTIFICATION

Twenty five (25) copies of this form have been submitted to the Boston Redevelopment Authority for Distribution to all agencies and persons as required by the Boston Zoning Code, Article 31, section 31-5(1).


Signature of Proponent


Date

Proponent:
Robert P. Bland, President

Address:
NEMC Real Estate Inc.
100 Boylston Street
Boston MA 02111

VI. EXHIBITS

- Exhibit 1. Location Map/ Parcel C Garage**
- Exhibit 2. Street Level Plan**
- Exhibit 3. Typical Floor Plan**
- Exhibit 4. Building Section**
- Exhibit 5. Heights of Surrounding Buildings**
- Exhibit 6. Open Space Resources**
- Exhibit 7. Photographs of Parcel C Site**
- Exhibit 8. Historic Resource Map**
- Exhibit 9. Transportation Impact Analysis**
- Exhibit 9A. Transportation Impact Analysis - Appendix**



scale 1:25,000

EXHIBIT 1 Location Map - Parcel C Garage

N.T.S.



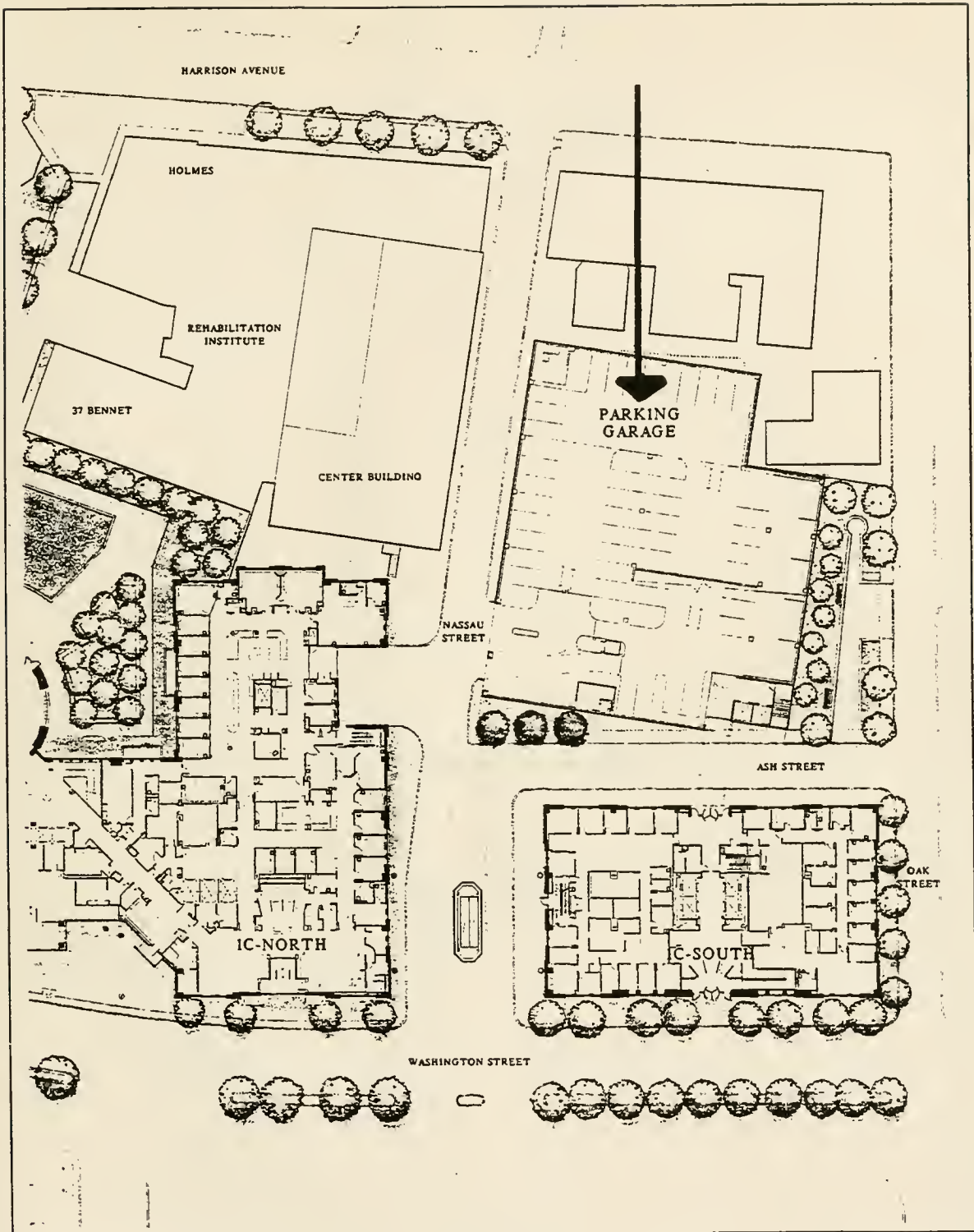
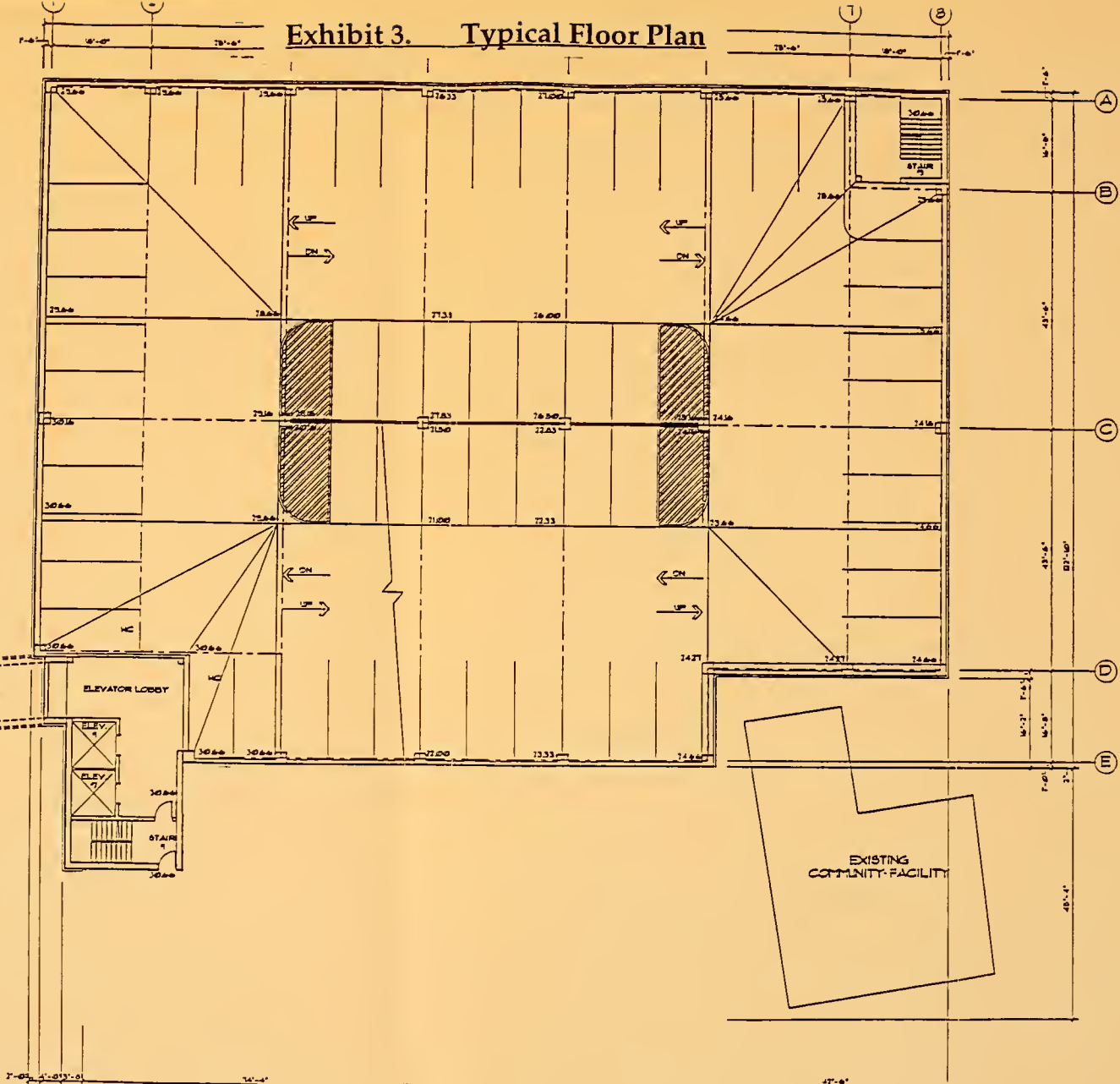


EXHIBIT 2 Street Level Plan

N.T.S.



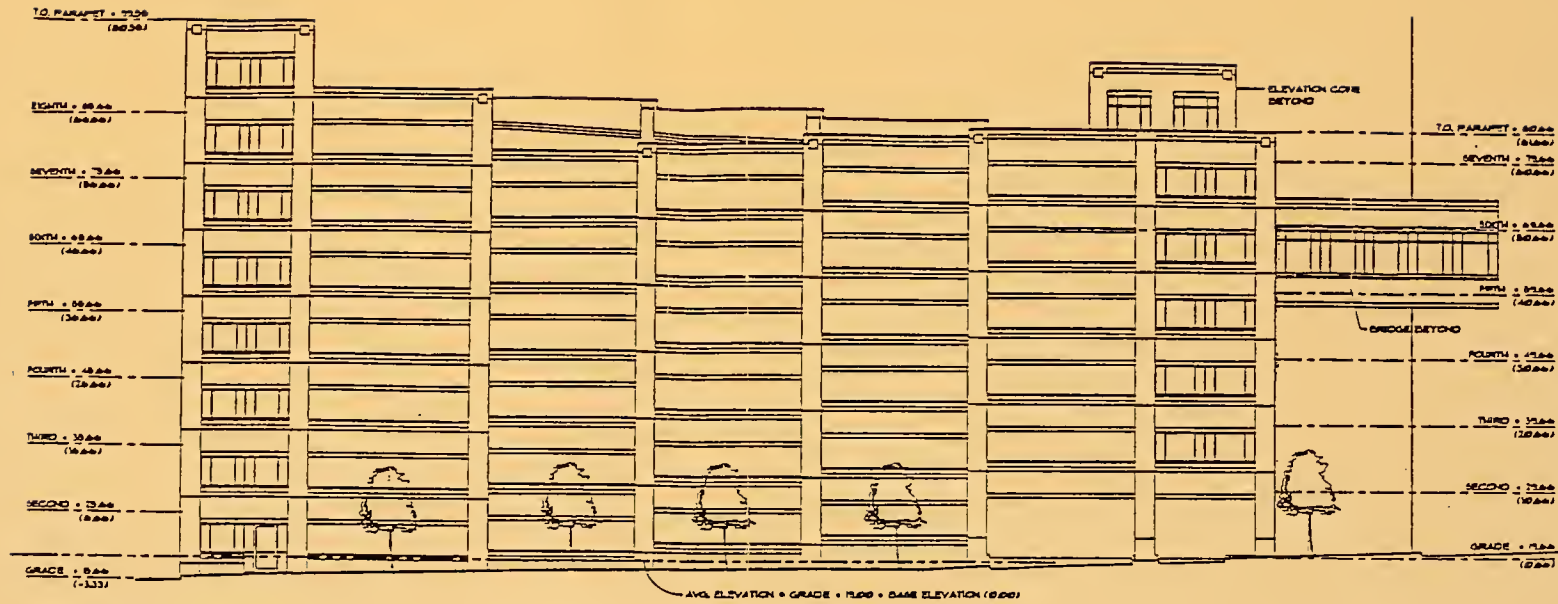
Exhibit 3. Typical Floor Plan



SECOND FLOOR PLAN - 3066
SIMILAR ABOVE - 4066, 5066, 6066, 7066

19454 SF

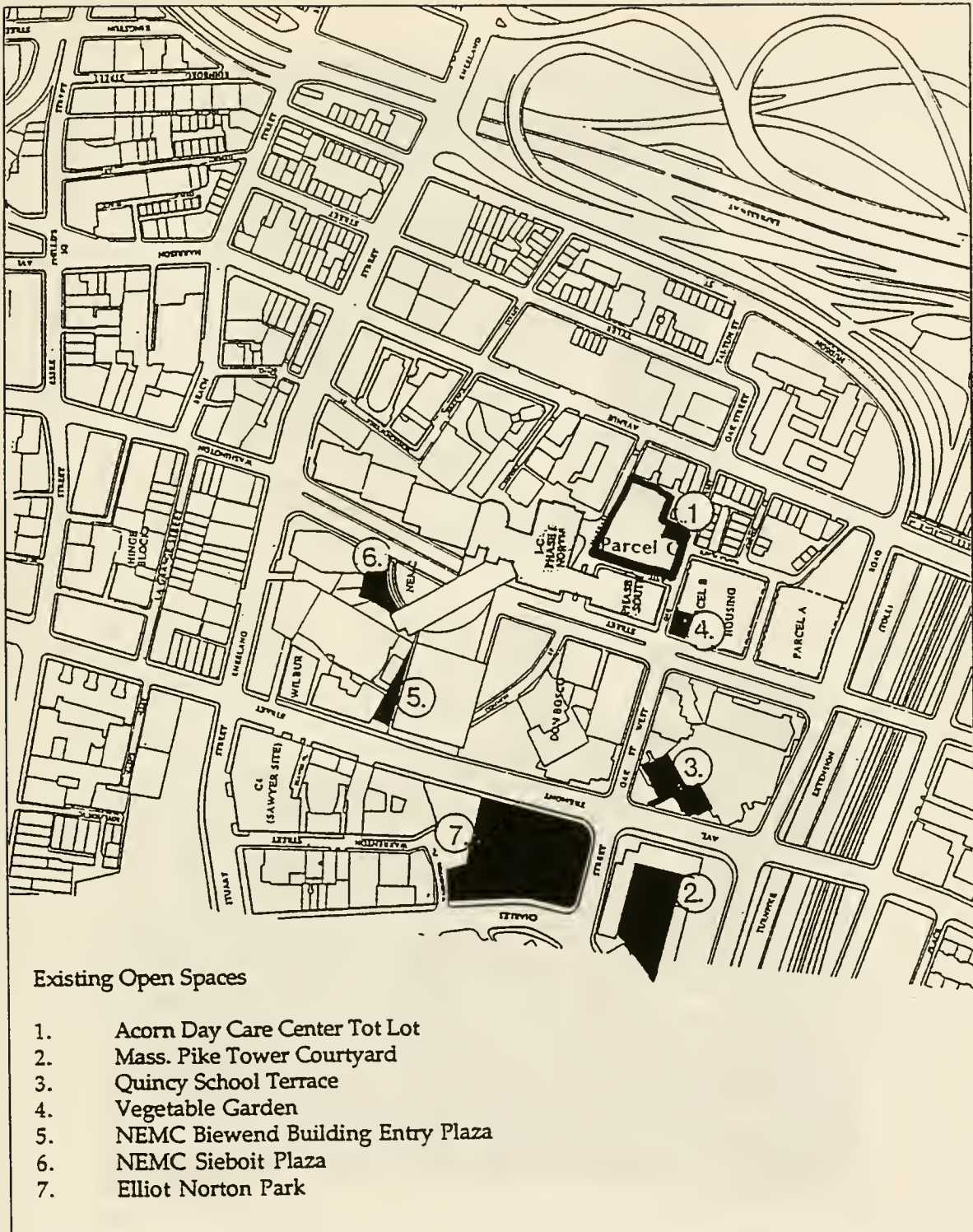
Exhibit 4. Building Section

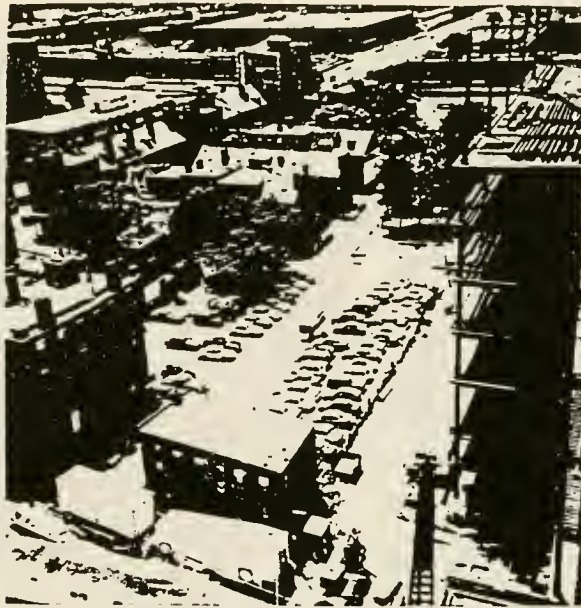


NASSAU STREET ELEVATION



N.T.S.





front



back

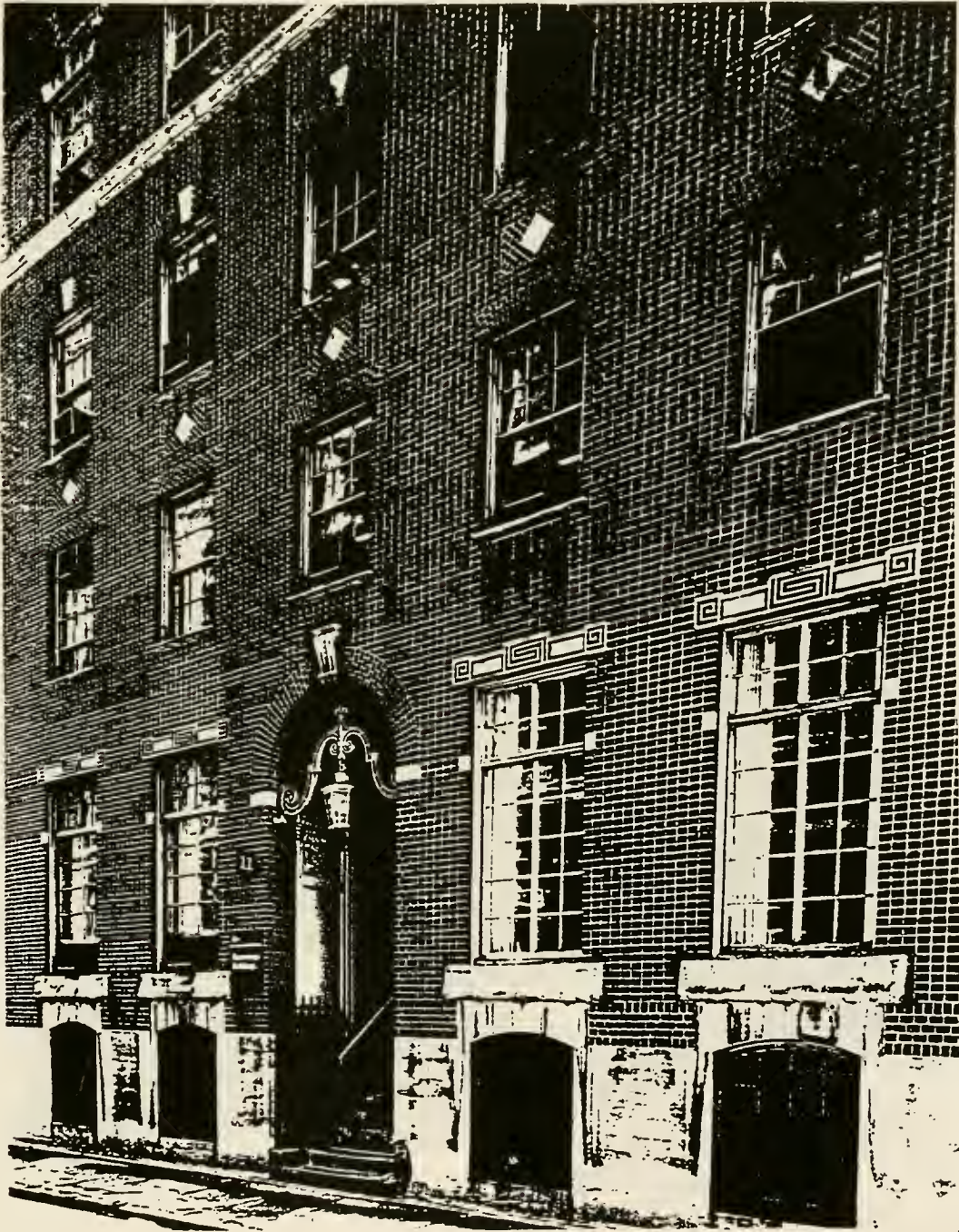


EXHIBIT 7 Photographs of Parcel C Site

11 Nassau Street



EXHIBIT 7 Photographs of Parcel C Site

17 Nassau Street

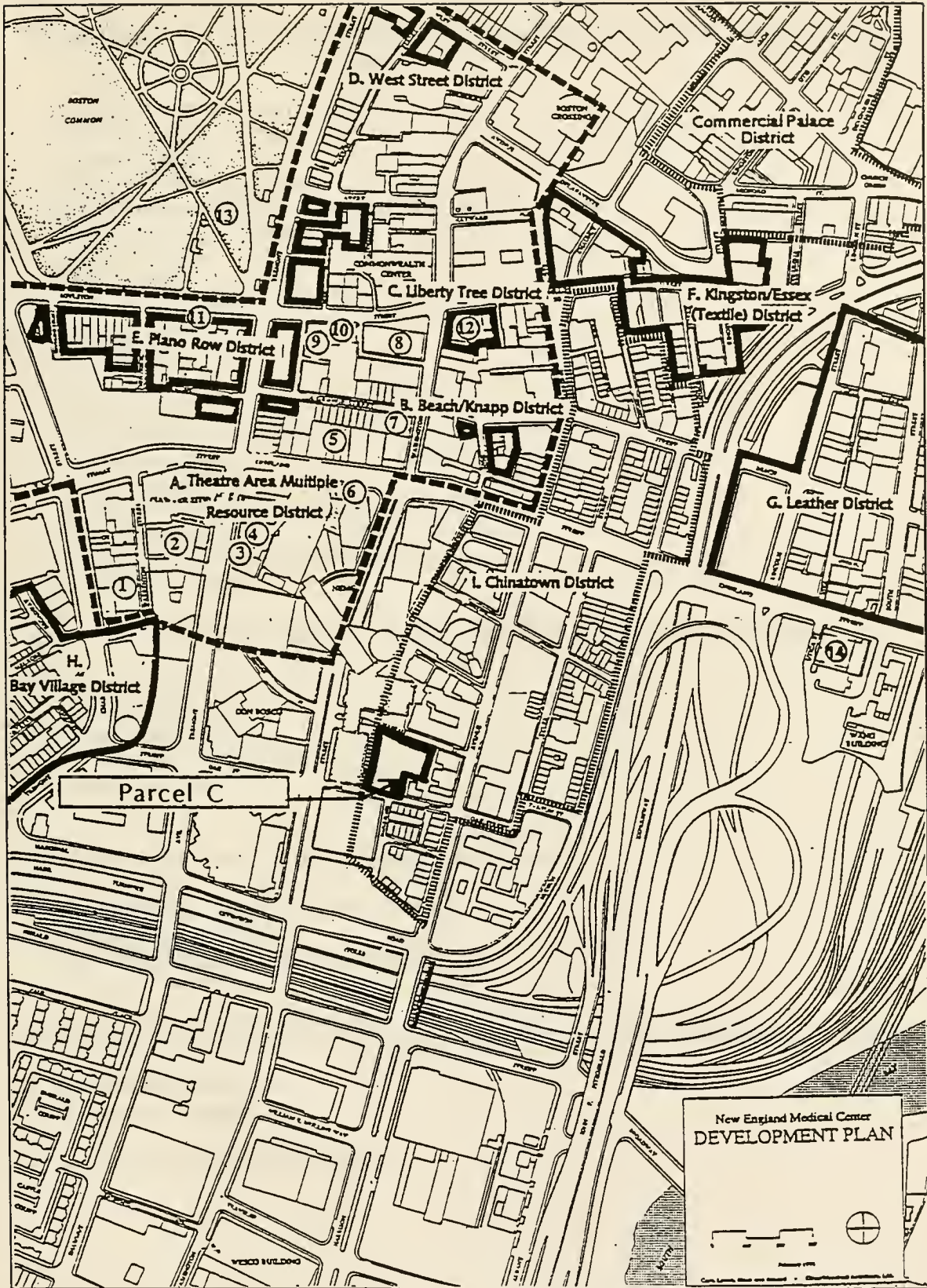


EXHIBIT 8 Historic Resources Map

N.T.S.



The NR Theatre Area Multiple Resource Nomination District also includes the following individually listed NR/BLC properties:

1. Charles Playhouse/Fifth Adventist Church
76-78 Warrenton Street
2. Shubert Theatre
263-265 Washington Street
3. Wang Theatre (Music Hall/Metropolitan Theatre)
252-272 Washington Street
4. Wilbur Theatre
244-250 Washington Street
5. Jacob Wirth Buildings
31-39 Stuart Street
6. Dill Buildings
11-25 Stuart Street
7. Hayden Building
681-683 Washington Street
8. Boylston Building
2-25 Boylston Street
9. Boston Young Men's Christian Union (YMCU)
48 Boylston Street
10. Boston Edison Electric Illumination Company
25-39 Boylston Street

Three additional individual BLC listings also fall within this same Theatre Area District:

11. Colonial Theatre
96-106 Boylston Street
12. Liberty Tree Block
628-636 Washington Street
13. Boston Common

Other nominated districts in the vicinity of the site include:

- Kingston-Essex (Textile) NR/BLC District
- Leather NR/BLC District
- Bay Village Local Historic District (NR/BLC)

NR Eligible Districts and Individually Listed Properties within the surrounding area include:

- Chinatown District
- Commercial Palace District

14. 155 Kneeland Street (power plant)

TRANSPORTATION IMPACT ANALYSIS

JULY 1993

Prepared for:
New England Medical Center Hospital, Inc.
100 Boylston, Suite 1025
Boston, MA 02116

Prepared By:
Howard/Stein-Hudson Associates, Inc.
38 Chauncy Street
Boston, MA 02111

Table of Contents

	<u>Page</u>
I. Introduction and Project Description	1
II. Existing Conditions Analysis	1
III. Project Traffic Generation	5
IV. Traffic Assignment and Distribution	5
V. Traffic Impact Analysis	6
VI. Conclusions	16

List of Tables

<u>Table</u>	<u>Page</u>
1. Intersection Levels of Service in Vicinity of Parcel C Garage: Existing Conditions (1993)	4
2. Intersection Levels of Service in Vicinity of Parcel C Garage: Garage Traffic Added to Existing Conditions (1993) Traffic Volumes	9
3. Intersection Levels of Service in Vicinity of Parcel C Garage: 1-C FEIR No Build (Year 2000) Traffic Volumes	12
4. Intersection Levels of Service in Vicinity of Parcel C Garage: Garage Traffic Added to 1-C FEIR No Build (Year 2000) Traffic Volumes	15

List of Figures

<u>Figure</u>	<u>Page</u>
1. AM Peak Hour Volumes: Existing Conditions	2
2. PM Peak Hour Volumes: Existing Conditions	3
3. AM Peak Hour Volumes: Project Generated (added to 1993 existing volumes)	6
4. PM Peak Hour Volumes: Project Generated (added to 1993 existing volumes)	7
5. AM Peak Hour Volumes: NEMC 1-C FEIR No Build Conditions (Year 2000)	10
6. PM Peak Hour Volumes: NEMC 1-C FEIR No Build Conditions (Year 2000)	11
7. AM Peak Hour Volumes: Project Generated (added to 1-C FEIR No Build Volumes - Year 2000)	13
8. PM Peak Hour Volumes: Project Generated (added to 1-C FEIR No Build Volumes - Year 2000)	14

I. Introduction and Project Description

To support the Environmental Notification Form and Project Notification Form for the proposed New England Medical Center Garage on Parcel C, Howard/Stein-Hudson Associates has prepared this transportation impact analysis. The project will include a 455 car garage to be located on the corner of Nassau and Ash Streets within the NEMC campus. Of the 455 spaces, 400 will be used to serve NEMC patients and visitors. The remaining 55 spaces will be reserved for use by residents of the Parcel A and B housing projects nearby. The garage entrance and exit will both be located on new Nassau Street, which will be made a continuous eastbound route and new pedestrian connection between Washington Street and Harrison Avenue. Garage access will occur only from northbound or southbound Washington Street, and garage egress will occur onto Harrison Avenue. An upper level pedestrian bridge across Ash Street will link the garage to the 1-C South Building. This memo summarizes our analysis, which was carried out according to the standard method of:

- existing conditions analysis;
- traffic generation;
- traffic assignment and distribution;
- impact analysis (intersection capacity analysis).

II. Existing Conditions Analysis

To update prior inventories of existing transportation conditions conducted by the consultants for the New England Medical Center/Chinatown Housing Transportation Plan (September, 1992) and the NEMC 1-C Project Environmental Impact Report/Project Impact Report (July, 1992), each of which studies relied on a 1989 existing conditions traffic network, Automatic Traffic Recorder (ATR) traffic counts were conducted on Washington Street, Oak Street and Harrison Avenue in the blocks surrounding the project site. In addition, manual intersection turning movement counts were taken during the AM and PM peak periods at the following six intersections:

- Washington/Marginal Road
- Washington/Oak
- Washington/Kneeland
- Harrison/Kneeland
- Harrison/Oak
- Harrison/Marginal Road

A comparison of these 1993 peak hour volumes with the 1989 volumes from the 1-C FEIR shows no significant changes at any of the intersections.

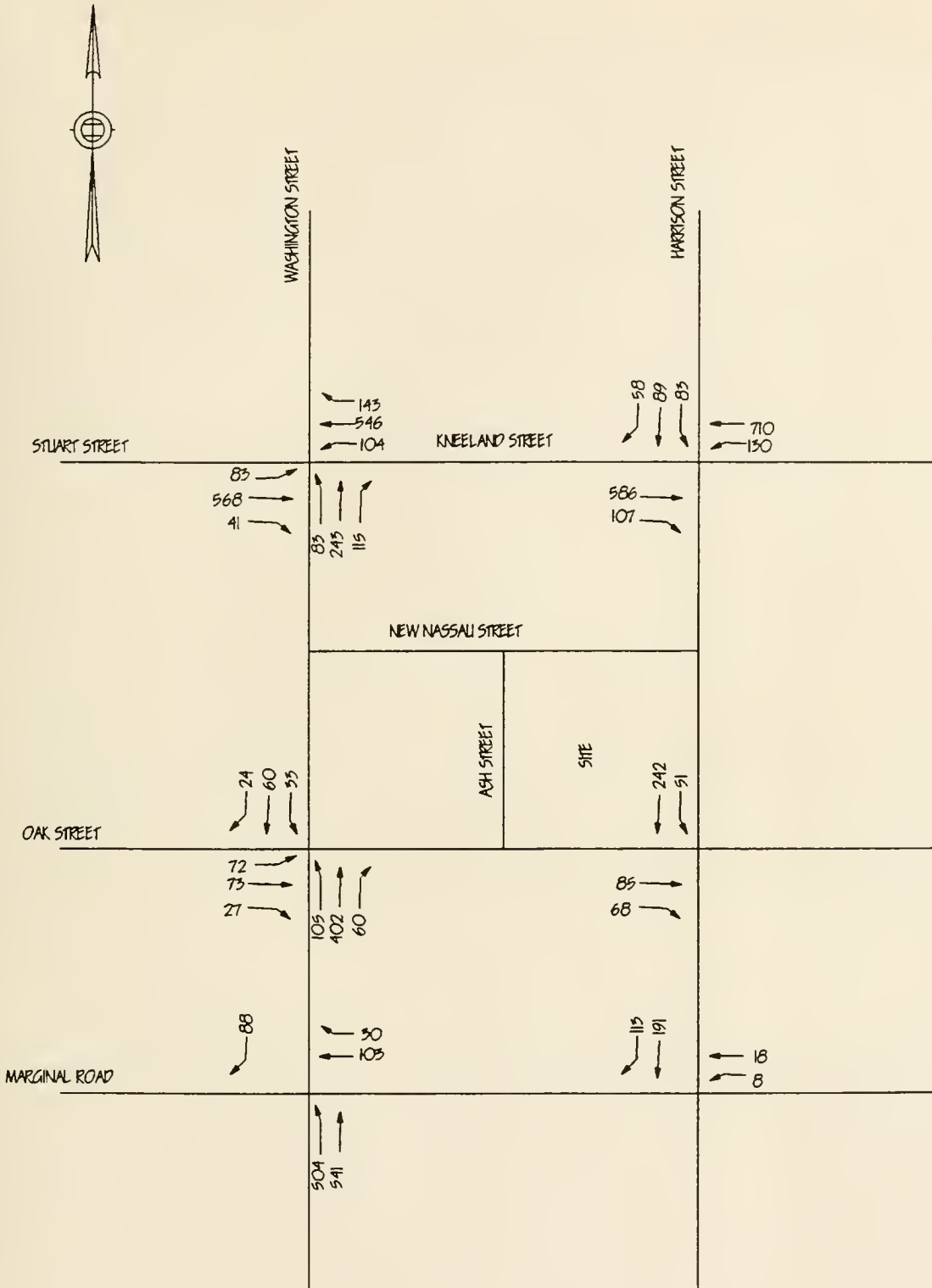
Nassau Street, which will be extended through to Washington Street, is currently closed to traffic due to 1-C building construction; thus, no counts were taken at the Harrison/Nassau intersection. However, since this new street will provide garage access and egress via Washington Street and Harrison Avenue, analyses of future project "build" traffic conditions were conducted at both the Nassau/Washington and Nassau/Harrison intersections.

Existing AM and PM traffic volumes are shown in Figures 1 and 2. Capacity analysis conducted for the existing levels of traffic is summarized in Table 1, below:

SCALE:	NONE
FIGURE:	1

**New England Medical Center
Parcel C Garage**

**A.M. Peak Hour Volume
Existing Conditions**



SCALE:	NONE
FIGURE:	2

**New England Medical Center
Parcel C Garage**

**P.M. Peak Hour Volume
Existing Conditions**

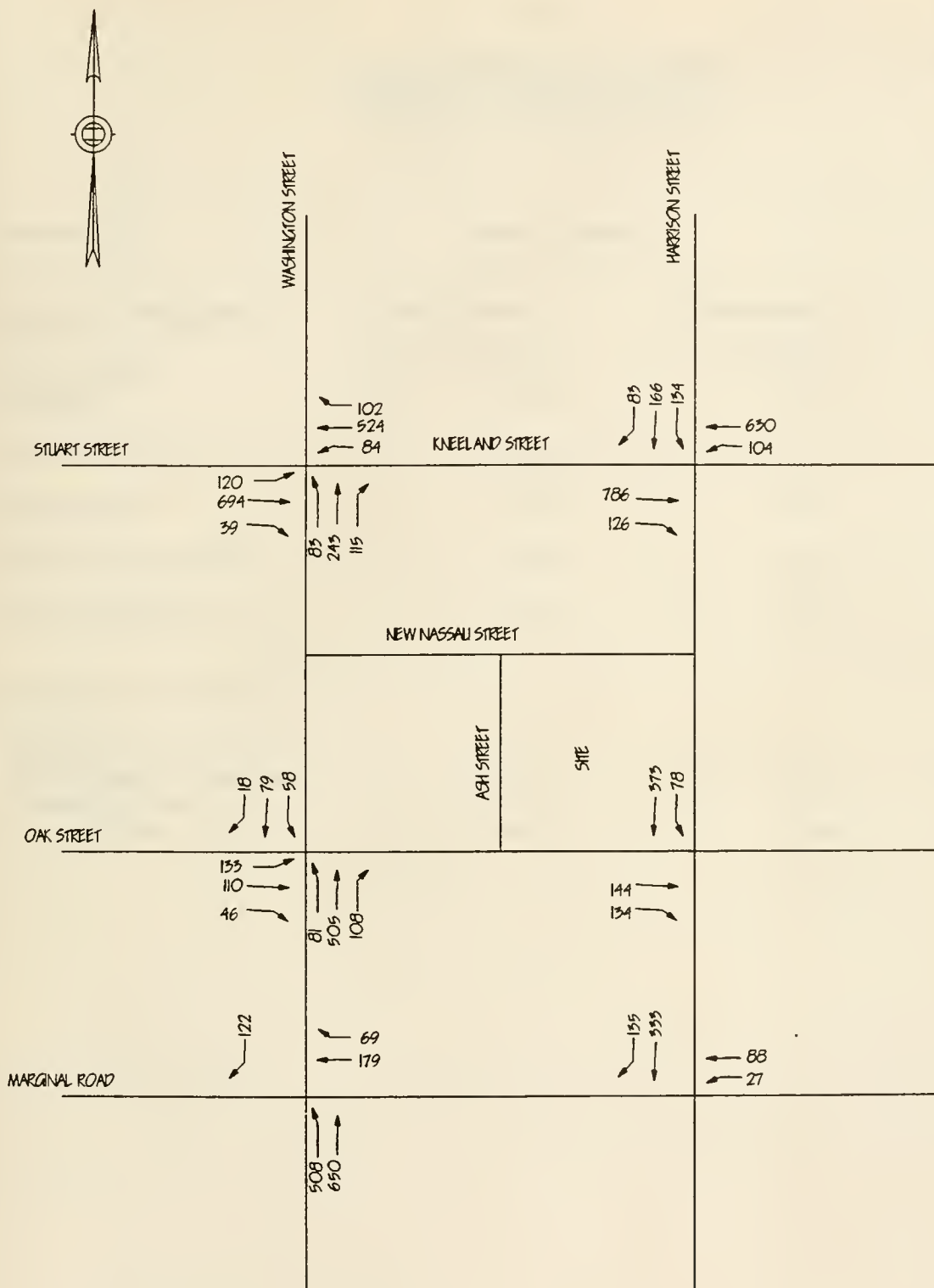


Table 1

**INTERSECTION LEVELS OF SERVICE
IN VICINITY OF PARCEL C GARAGE
EXISTING CONDITIONS (1993)**

Intersection		Level of Service			
Signalized Intersections:		AM Peak Hour		PM Peak Hour	
		LOS	Ave. Delay	LOS	Ave. Delay
Stuart/Kneeland/ Washington		B	9 sec	B	10 sec
Kneeland/Harrison		B	10 sec	C	16 sec
Oak/Washington		B	8 sec	B	12 sec
Marginal Rd./Washington		A	4 sec	B	5 sec
Marginal Rd./Harrison		A	3 sec	B	7 sec
Unsignalized Intersection:					
Oak/Harrison					
Oak St. eastbound approach		A	6 sec	B	11 sec
Harrison Ave. left turns to Oak		A	3 sec	A	3 sec

III. Project Traffic Generation

Traffic to be generated from the proposed garage was estimated on the basis of actual traffic counts conducted at the Tremont Street Garage and the various lots which serve NEMC patients and visitors.

- Daily traffic to be generated by the proposed 455-space garage was estimated on the basis of a 2.5 garage "turnover," as observed at NEMC patient and visitor facilities. This means that each space is used by 2.5 vehicles, on average, over the course of an average day and evening. Thus, the 455 spaces would generate a total of 1138 vehicles per day entering and 1138 vehicles leaving, for a total of 2,276 vehicle trips in and out per day. This estimate can be viewed as a conservative "worst case" condition, since the 55 residential spaces will probably not be used as frequently as the patient/visitor spaces. Many downtown residents work downtown and actually leave their vehicles parked during the day. Using the same patient/visitor turnover rate, the existing 80 space Oak Street lot on the site itself generates 400 total vehicle trips in and out per day. In addition, the 60 space Washington Street lot, which was used exclusively for night shift nurses prior to its demolition for the 1-C project, generated 120 spaces per day, using a lower turnover of 1.0. Thus, the preexisting lots generated a total of 520 vehicle trip ends per day, so that the new garage will result in a net addition of 1,756 vehicle trips in and out per day.
- When these volumes are compared to existing volumes on Oak Street, Washington Street, Harrison Avenue, and Nassau Street, the result is a net addition of 878 trips on Washington Street (to the garage only), and 878 trips on Harrison Avenue (from the garage only). Nassau Street, which has no traffic on it today, will absorb the total of 1,138 entering trips and 1,138 exiting trips. Oak Street will not have any added traffic as a result of the new garage. To the contrary, the 400 trips in and out of the Oak Street lot, all of which now travel on Oak Street, will be removed from Oak Street under the Parcel C garage proposal, reducing volumes on that street.
- Peak hour counts from the Tremont Street garage were expressed in terms of percentage of total garage capacity, then applied to the capacity of the Parcel C Garage (assumed at 455 as a "worst case"). This calculation yielded peak hour traffic volumes of:
 - ▶ AM Peak Hour entering (33% of capacity): 151
 - ▶ AM Peak Hour exiting (2% of capacity): 10
 - ▶ PM Peak Hour entering (2% of capacity): 9
 - ▶ PM Peak Hour exiting (18% of capacity): 82

As shown above, the peak hour traffic for this facility will be less than for a typical employee garage, due to the fact that its primary purpose is to serve patients and visitors whose visits are spread more throughout the day. The morning is slightly more highly peaked than the evening, serving 33% of garage capacity during the peak one hour period, probably due to the fact that many appointments are scheduled for "first thing in the morning." In the evening, the peak volume represents only 18% of capacity, a very low percentage compared to an employee garage, where typical values of 40-50% of capacity in the peak direction are found.

IV. Traffic Assignment and Distribution

The entering and exiting traffic was then assigned to the street system in accordance with trip distribution percentages derived for the Tremont Street Garage on the basis of Howard/Stein-Hudson Associates surveys, and documented in the NEMC 1-C Environmental Impact Report/Project Impact Report. The trip distribution for entering and exiting traffic is shown in Figures 3 and 4. The site driveways, both entering

and exiting, are located on Nassau Street, which will run one way from Washington Street to Harrison Avenue. Note that all entering traffic uses Washington Street, and all exiting traffic uses Harrison Avenue, due to the one-way circulation pattern.

As shown, all traffic will enter the site from Nassau Street, accessed from either northbound or southbound Washington Street. About 83% of the traffic will come from the north, because Kneeland Street provides the primary access to Storrow Drive, the Massachusetts Turnpike ramps and the southbound expressway. About 17% will come from the south (northbound expressway and northbound surface streets).

Exiting traffic will all leave via Nassau Street to Harrison Avenue, which runs one-way southbound. About 20% of exiting traffic is destined for the northbound expressway, and 35% for the southbound expressway. About 2% is headed south on local streets, and 43% to the north and west via Storrow Drive and the Mass. Turnpike.

V. Traffic Impact Analysis

To analyze the impacts of this traffic on nearby intersections, the site generated traffic was first added to existing traffic at six key intersections, based on the 1993 traffic counting program described above. The resulting volumes are shown in Figures 3 and 4. The intersection capacity analyses are summarized in Table 2. Since the build year for the garage is 1995, and no major background development is expected in the study area in the next two years, unadjusted existing volumes were used as the base for analysis. The use of existing volumes is conservative, in that the volumes from the lot currently operating on Parcel C have not been subtracted, even though this lot will be replaced. As shown below, the addition of the garage volumes to existing 1993 volumes will not result in any deterioration of LOS below LOS C. As shown, the site entrance at Nassau and Washington Street and the exit on Nassau and Harrison will both operate at LOS A during the AM and PM peak hours.

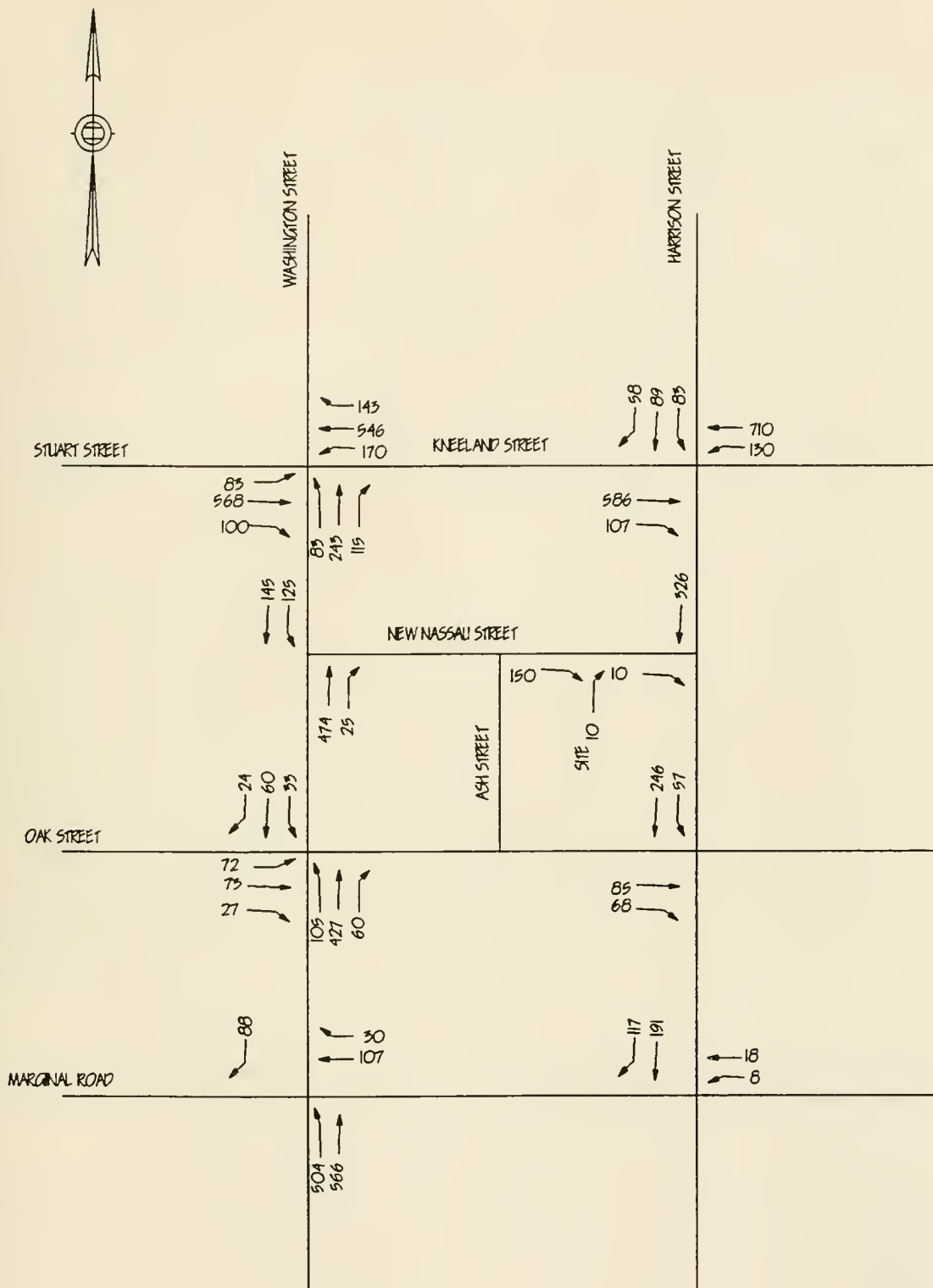
After this analysis was complete, an analysis based on site generated traffic added to 1-C Year 2000 Build volumes from the FEIR was completed in order to account for the garage impacts within the context of longer term traffic growth. These projected volumes were very conservative, including volumes from large-scale background growth which is not likely to occur as originally predicted. They thus represent a "worst case" analysis of garage impacts. Future No Build Volumes from the 1-C FEIR are shown in Figures 5 and 6, and analysis for 1-C No Build traffic is shown in Table 3. Volumes with the garage traffic added are shown in Figures 7 and 8. Analysis showing the effects of Parcel C garage traffic added to the Year 2000 1-C FEIR No Build volumes is summarized in Table 4.

SCALE: NONE
FIGURE: 3

**New England Medical Center
Parcel C Garage**

**A.M. PEAK HOUR VOLUME
PROJECT GENERATED
(added to 1993 existing volumes)**

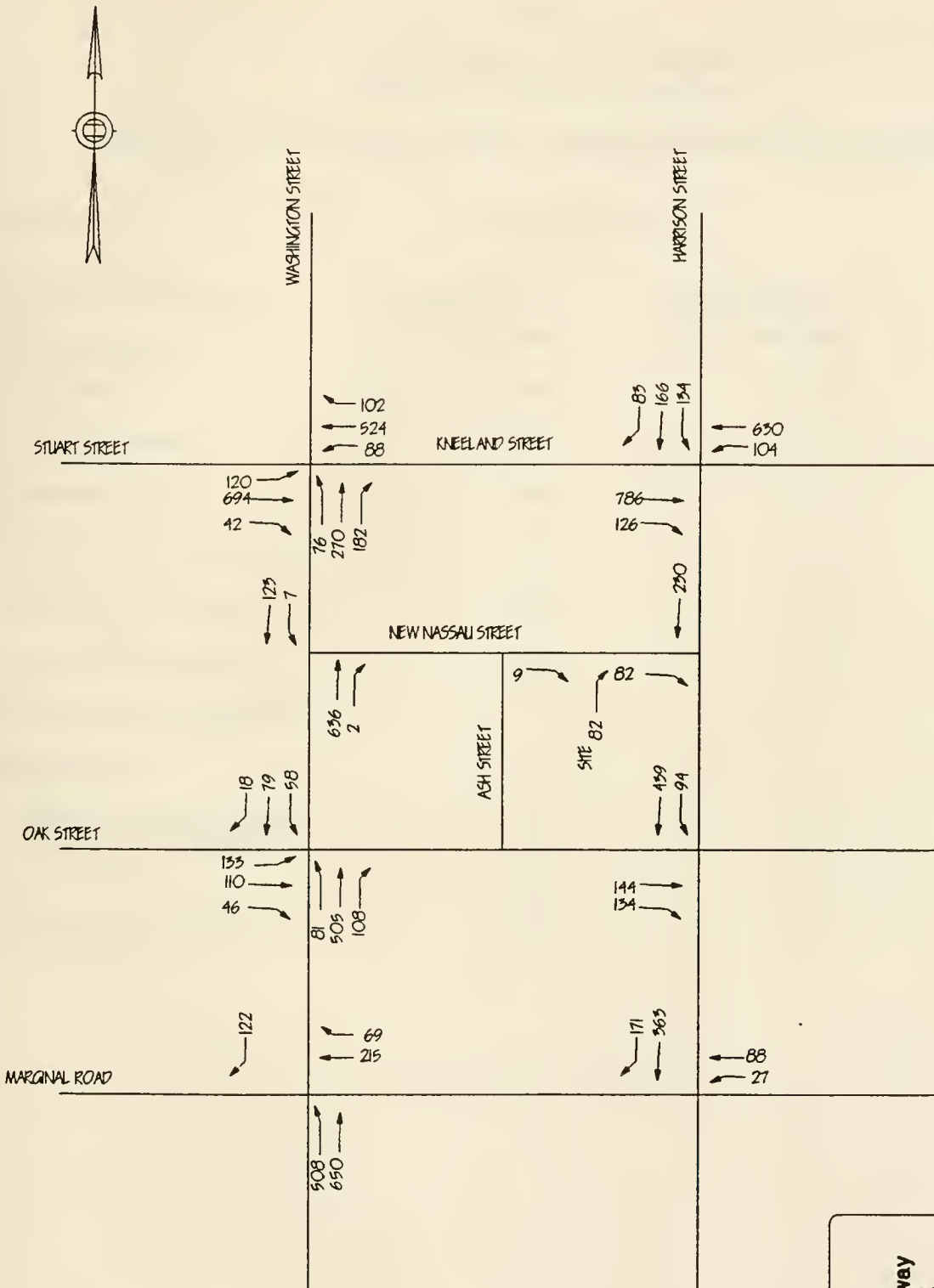
**150 Entering
10 Exiting
17% From South
83% From North**



SCALE:	NONE
FIGURE:	4

**New England Medical Center
Parcel C Garage**

**P.M. PEAK HOUR VOLUME
PROJECT GENERATED
(added to 1993 existing volumes)**



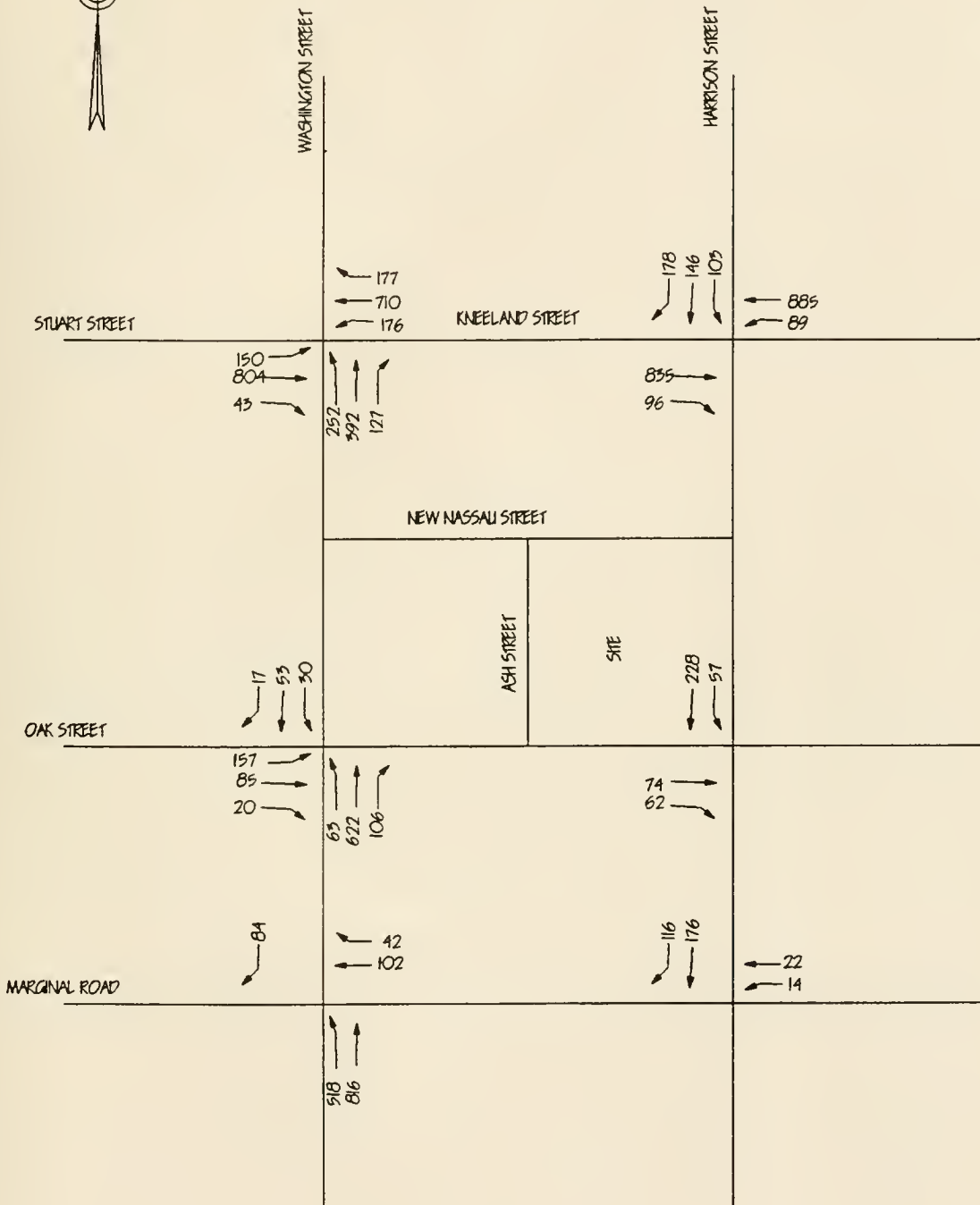
**9 Entering
82 Exiting
20% NB Expressway
35% to Southeast
2% to South
43% to Northwest**

Table 2

**INTERSECTION LEVELS OF SERVICE
IN VICINITY OF PARCEL C GARAGE**

GARAGE TRAFFIC ADDED TO EXISTING CONDITIONS (1993) TRAFFIC VOLUMES

Intersection		Level of Service		
Signalized Intersections:	AM Peak Hour		PM Peak Hour	
	LOS	Ave. Delay	LOS	Ave. Delay
Stuart/Kneeland/ Washington	B	9 sec	B	10 sec
Kneeland/Harrison	B	15 sec	B	15 sec
Oak/Washington	B	7 sec	B	12 sec
Nassau/Washington (site entr)	A	4 sec	A	5 sec
Marginal Rd./Washington	A	4 sec	B	5 sec
Marginal Rd./Harrison	A	3 sec	B	6 sec
Unsignalized Intersections:				
Oak/Harrison:				
Oak St. eastbound approach	A	6 sec	C	13 sec
Harrison Ave. left turns to Oak	A	3 sec	A	3 sec
Nassau/Harrison (site exit)	A	3 sec	A	4 sec



SCALE:	NONE
FIGURE:	5

**New England Medical Center
Parcel C Garage**

**A.M. PEAK HOUR VOLUME
NEMC 1-C FEIR NO BUILD (2000)**

SCALE: NONE
FIGURE: 6

**New England Medical Center
Parcel C Garage**

P.M. PEAK HOUR VOLUME
NEMC 1-C FEIR NO BUILD (2000)

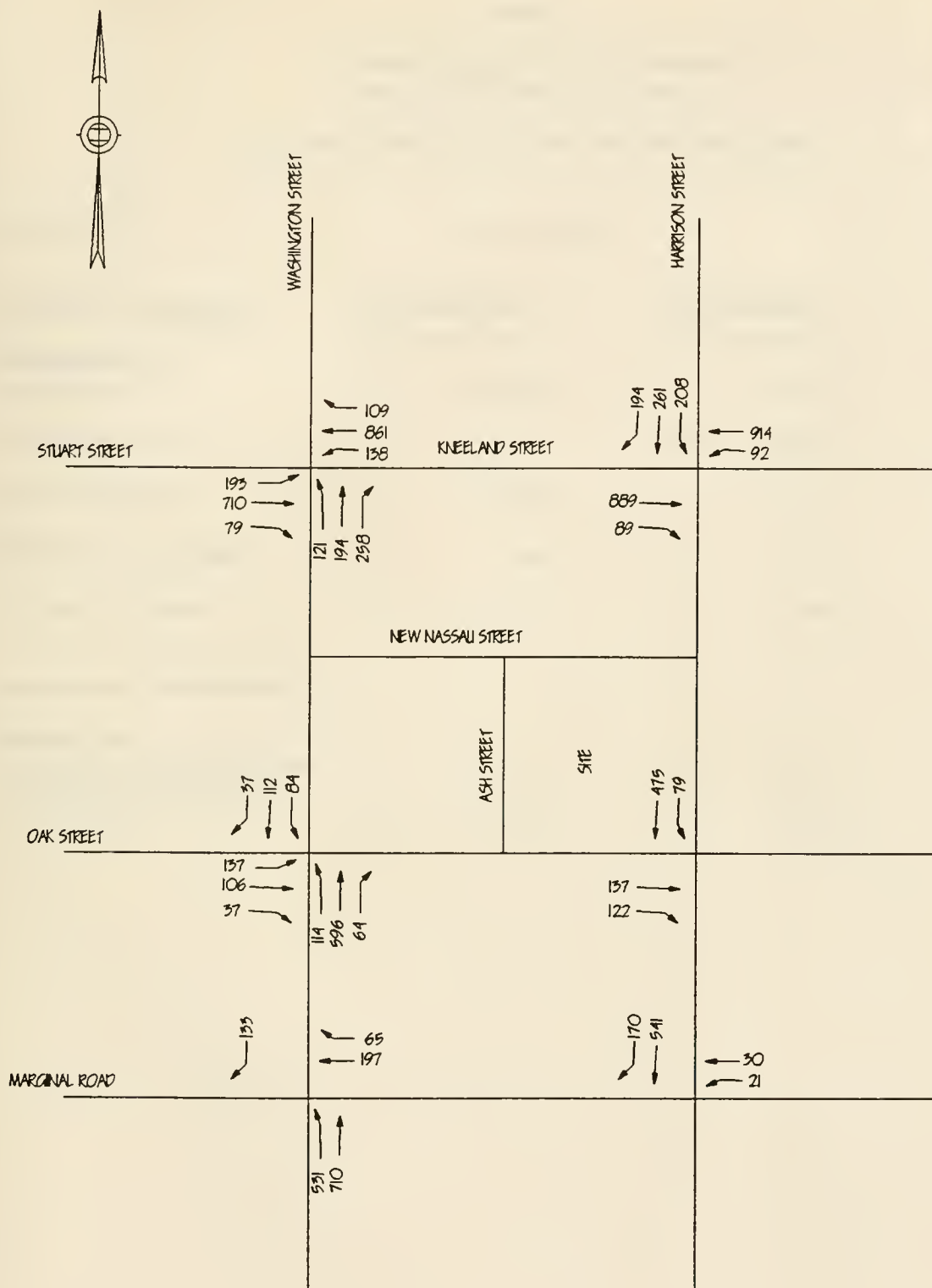


Table 3

**INTERSECTION LEVELS OF SERVICE
IN VICINITY OF PARCEL C GARAGE**

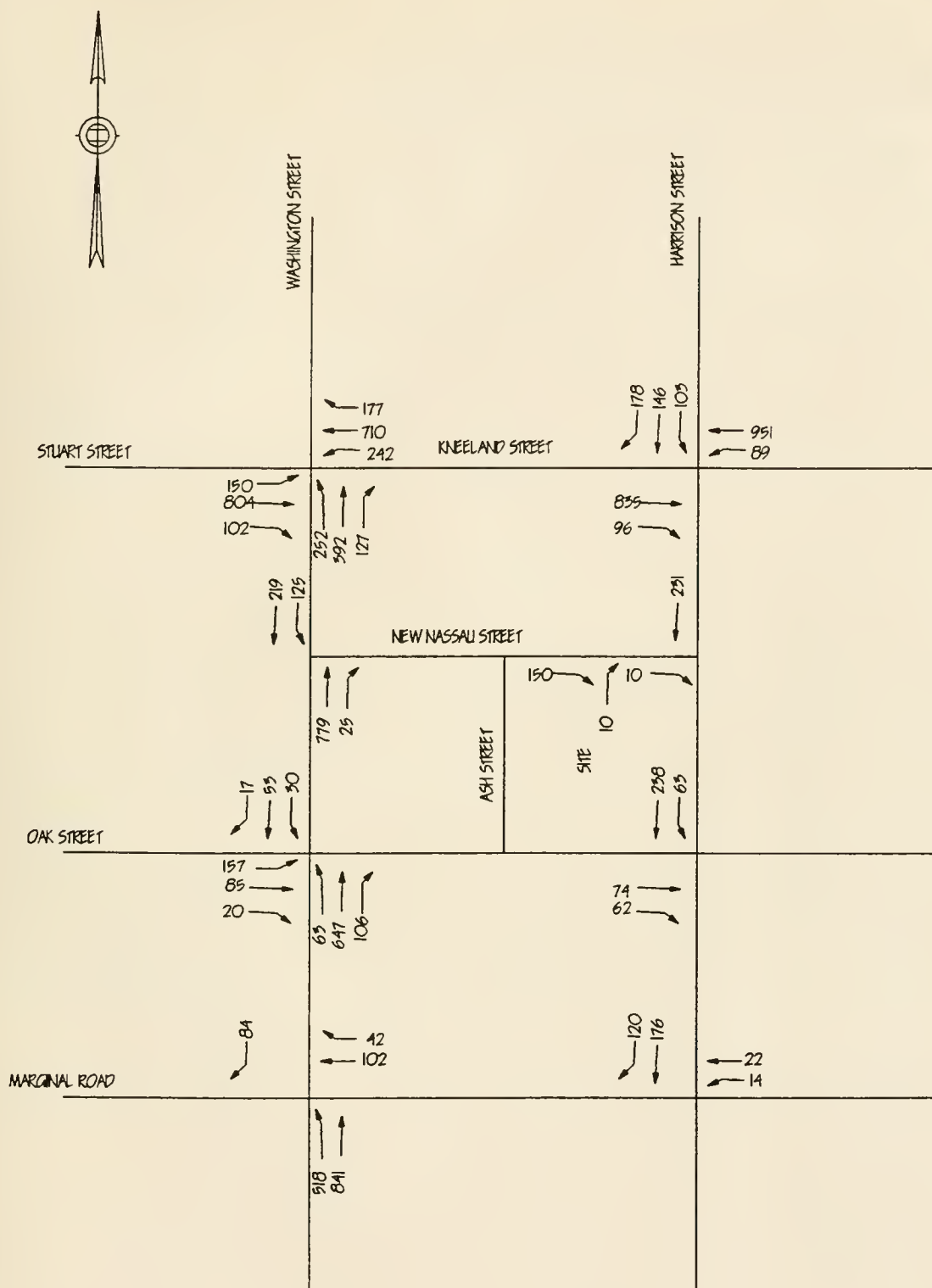
1-C FEIR NO-BUILD (YEAR 2000) TRAFFIC VOLUMES

Intersection		Level of Service			
Signalized Intersections:	AM Peak Hour		PM Peak Hour		
	LOS	Ave. Delay	LOS	Ave. Delay	
Stuart/Kneeland/ Washington	C	19 sec	D	35 sec	
Kneeland/Harrison	C	19 sec	E	55 sec	
Oak/Washington	B	11 sec	B	12 sec	
Marginal Rd./Washington	A	3 sec	B	7 sec	
Marginal Rd./Harrison	A	4 sec	A	3 sec	
Unsignalized Intersection:					
Oak/Harrison					
Oak St. eastbound approach	A	6 sec	D	22 sec	
Harrison Ave. left turns to Oak	A	3 sec	A	3 sec	

SCALE: NONE
FIGURE: 7

**New England Medical Center
Parcel C Garage**

**A.M. PEAK HOUR VOLUME
(added to 1-C FEIR Year
2000 No Build Volumes)**



SCALE:	NONE
FIGURE:	8

**New England Medical Center
Parcel C Garage**

**P.M. PEAK HOUR VOLUME
(added to 1-C FEIR Year
2000 No Build Volumes)**

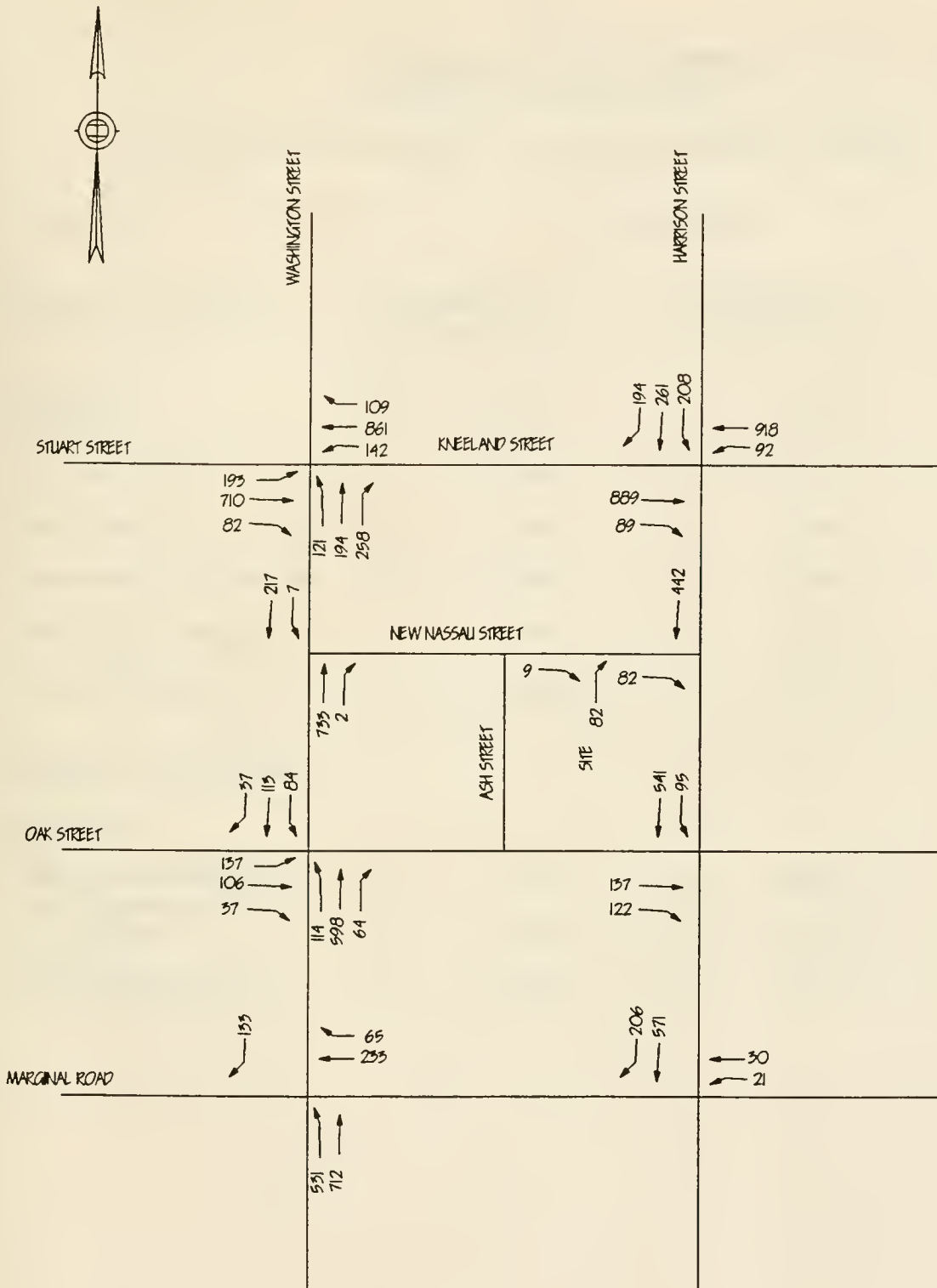


Table 4

**INTERSECTION LEVELS OF SERVICE
IN VICINITY OF PARCEL C GARAGE**

GARAGE TRAFFIC ADDED TO 1-C FEIR NO-BUILD TRAFFIC VOLUMES

Intersection		Level of Service			
Signalized Intersections:	AM Peak Hour		PM Peak Hour		
	LOS	Ave. Delay	LOS	Ave. Delay	
Stuart/Kneeland/ Washington	D	39 sec	D	28 sec	
Kneeland/Harrison	C	19 sec	E	55 sec	
Oak/Washington	B	13 sec	B	13 sec	
Nassau/Washington (site entr)	A	<1 sec	A	<1 sec	
Marginal Rd./Washington	A	4 sec	B	9 sec	
Marginal Rd./Harrison	A	4 sec	A	3 sec	
Unsignalized Intersections:					
Oak/Harrison:					
Oak St. eastbound approach Harrison Ave. left turns to Oak	A	7 sec	E	36 sec	
	A	3 sec	A	3 sec	
Nassau/Harrison (site exit)	A	3 sec	A	4 sec	

As shown in Tables 3 and 4:

- The new intersection of Nassau Street and Washington Street will accommodate added garage and 1-C building pick-up and dropoff traffic at Level of Service (LOS) A during both morning and evening peak hours. It is assumed that there will be a signal at this intersection to allow for protected ambulance access and pedestrian access.
- The intersection of Nassau Street and Harrison Avenue, which accommodates traffic exiting from the site, will operate at LOS A, as an unsignalized intersection.
- Under 1-C No Build Year 2000 conditions, Kneeland Street and Washington Street, the added garage traffic (about 60 cars turning right from eastbound Kneeland to Washington and about 66 cars turning left from westbound Kneeland to Washington) will reduce LOS in the morning peak hour from LOS C to LOS D, which is still acceptable in an urban setting. In the evening, there will be no change in the LOS C conditions.
- Year 2000 No Build traffic brings the Harrison/Kneeland intersection to a LOS E in the PM peak hour. The garage adds no traffic to this location at this time period, however, and does not change the No Build conditions.
- The Harrison Avenue/Marginal Road intersection operates at LOS A during both AM and PM peak hours, so the relatively few vehicles added by the garage will not create unacceptable conditions there.
- The Harrison/Oak intersection operates at LOS D for the Oak Street approach under Year 2000 PM peak hour No Build conditions, and a LOS E for Oak Street approach traffic under garage build conditions. Again, the garage will not add any traffic to Oak Street, since its entrance and exit will be on Nassau Street. If conditions warrant, this situation could easily be mitigated through adding a signal at Oak and Harrison.

VI. Conclusions

In sum, this analysis has not uncovered any traffic circulation or intersection capacity problems associated with the new Parcel C garage. Its construction meets patient/visitor parking demand for the NEMC 1-C development as well as residential parking demand for Parcels A and B. The associated street improvements help pedestrian circulation in the area. Of course, specific design issues regarding driveway location, garage operations, etc. must be worked out as the design progresses.

BOSTON PUBLIC LIBRARY



3 9999 06315 714 1

